

REMARKS

Claims 1, 2, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mama (JP 11-34610) in view of Kojima et al. (JP 58167203). Applicant traverses the rejection because the cited references, taken alone or in combination, fail to disclose or suggest a tire having a tire radial-direction length h between edges of extension portions and edges of a belt ply having a maximum belt width substantially equal to 0, as recited in claim 1.

Figs. 1-3 of Mama show a tire having one or more cover layers 6 disposed radially outward of a belt layer 5a. While the figures depict the cover layers 6 in relative proximity to the belt layer 5a, terminal edges of the cover layers are separated from terminal edges of the underlying belt layer by a relatively large radial distance. That is, the radial distance between edges of the cover layer(s) 6 and edges of the belt layer 5a is substantially larger than 0.

Kojima is merely cited to disclose a coating rubber having a loss factor that is greater than zero and less than 0.10. The tire disclosed by Kojima does not include a belt cover ply, and thus cannot disclose distance between extension portions of a belt cover ply and an underlying belt ply.

In contrast, embodiments of the present invention include a tire radial-direction length h , measured between edges of an extension portion of a belt cover ply and edges of an underlying belt ply, that is substantially equal to 0 (see present specification, paragraph [0033]). The lack of vertical separation helps to reduce heat generated in a shoulder portion

of the tire by repeated deformation received when the tire is rolling. Because Mama and Kojima, taken alone or in combination, fail to disclose or suggest a radial separation between the edges of the belt cover ply and the edges of the underlying belt ply that is substantially equal to 0, applicant respectfully requests withdrawal of the rejection of independent claim 1, and its dependent claims 2 and 17.

Claims 3 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mama and Kojima, and further in view of Mochida (JP 02-074403), and Yamamoto (JP 06-092108). Claims 3 and 5 depend from independent claim 1, and thus include all the features of claim 1, plus additional features. Accordingly, applicant traverses this rejection for at least the reasons recited above with respect to the rejection of claim 1, and because Mochida and Yamamoto fail to remedy the deficiencies identified above with respect to the rejection. For these reasons, applicant respectfully requests withdrawal of the rejection of claims 3 and 5.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Mama, Kojima, Mochida and Yamamoto, and in further view of Motomura (USPN 5,215,612). Claim 4 ultimately depends from claim 1. Thus, claim 4 incorporates all of the features of independent claim 1, plus additional features. Accordingly, applicant traverses this rejection for the reasons discussed above with respect to the rejection of claim 1, and because Mochida, Yamamoto, and Motomura fail to remedy the deficiencies identified with respect to this rejection. Thus, applicant respectfully requests withdrawal of the rejection of claim 4 for the reasons discussed above with respect to claim 1.

Claims 9, 10 and 18-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mama, in view of Yamaguchi (JP 06-344721) and Kojima. Applicant traverses this rejection because the cited references, taken alone or in combination, fail to disclose or suggest a tire where a belt cover includes a main belt cover section and belt cover extension sections that are not connected to the main belt cover section, and axially inner ends of the belt cover extension sections are disposed radially inward of one or more belt plies.

As discussed above, Mama shows, in Figs. 1-2, belt cover layers 6 arranged to cover the edges of underlying belt layers 5a and 5b. However, the figures show that axially inner edges of belt cover layers 6 are disposed radially outward of all of the belt plies, and not radially inward of one or more of the belt plies, as recited in claim 9. Further, Figs. 1 and 2 of Mama show belt cover layers 6 arranged to cover the axial edges of the underlying belt plies, but do not show a main belt cover section. On the other hand, Fig. 3 of Mama shows a single connected belt cover layer 6 entirely covering underlying belt layers 5a and 5b.

Also as discussed above, Kojima is silent regarding a belt cover layer in the tire. Accordingly, Kojima also fails to disclose that axially inner edges of a belt cover ply are disposed radially inward of at least one belt ply.

Yamaguchi discloses a tire including belt layers 4 and a belt reinforcing layer 5. Yamaguchi also teaches that a belt addition reinforcement layer can be added on both-sides of a belt layer 4. The belt reinforcing layer 5 is divided into three sections including a center

section and two side sections. However, as shown in Fig. 1, the side sections of the belt reinforcing layer 5 are connected to the center section. Further, the axially inner edges of the side sections of the belt reinforcing layer 5 are disposed radially outwardly of all belt layers 4. Also, Yamaguchi teaches that the belt addition reinforcement layer is disposed radially outward of the belt reinforcing layer. Accordingly, Yamaguchi also fails to disclose or suggest that side sections of the belt reinforcing layer are not connected to the center section of the belt reinforcing layer, or that the belt reinforcing layer or belt addition reinforcing layer has axially inner edges that are disposed radially inward of one or more of the belt layers, as required by claim 9.

In contrast, Fig. 5 of the present application shows that an axially inner end of a belt cover extension sections 8'Y is located radially inward of a second belt ply 5B. Similarly, Fig. 6 of the present application shows that the axially inner portion of the belt cover extension section 8'Y is located radially inward of both a first belt ply 5A and the second belt ply 5B. Further, as shown in Figs. 5 and 6 of the present application, the belt cover extension sections 8'Y are not connected to the main belt cover section 8'X. Since, Mama, Kojima, and Yamaguchi, taken alone or in combination, fail to disclose or suggest that the axially inner ends of the belt cover extension sections are located radially inward of one or more belt plies and that the belt cover extension sections are not attached to the main belt cover section, applicant respectfully requests withdrawal of the rejection of claims 9, 10, and 18-20.

Claims 11 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mama, Yamaguchi, and Kojima, and further in view of Mochida and Yamamoto. Claims 11 and 13 depend from claim 9, and thus includes all of the features of claim 9, plus additional features. Accordingly, applicant traverses the rejection of claims 11 and 13 for the reasons recited above with respect to claim 9, and because Mochida and Yamamoto fail to remedy the deficiencies of the rejection of claim 9 as discussed above. Applicant respectfully requests withdrawal of the rejection of claims 11 and 13.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Mama, Kojima, Mochida, and Yamamoto, and further in view of Motomura. Claim 12 ultimately depends from claim 9, and thus includes all of the features of claim 9, plus additional features. Accordingly, applicant traverses this rejection of claim 12 for the reasons discussed above with respect to claim 9. Withdrawal of this rejection is respectfully requested.

Claims 1, 2, 9, 10, and 17-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamaguchi in view of Kojima. Applicant traverses this rejection for the reasons given below.

Regarding claims 1, 2, and 17, applicant traverses the rejection because the cited references fail to disclose or suggest a tire-direction length h between edges of the extension portions and edges of the belt ply that is substantially equal to 0. Yamaguchi shows that a tire includes two belt layers 4, and a belt reinforcing layer 5 disposed radially outward of the belt layers. However, as shown in Fig. 1 of Yamaguchi, there is a substantial

radial distance between the edges of the belt reinforcing layer 5 and the edges of the belt layers 4. That is, the radial distance is not substantially 0, as recited in claim 1 of the present application.

As discussed above, Kojima fails to disclose or suggest a tire that includes a belt reinforcing layer. Accordingly, Kojima cannot disclose the radial distance h as recited in claim 1. Thus, since Yamaguchi and Kojima taken alone or in combination do not disclose that the radial distance h between edges of the extension sections and edges of the belt ply is substantially equal to 0 as recited in claim 1, applicant respectfully requests withdrawal of this rejection as it applies to claim 1 and its associated dependent claims.

With respect to claims 9-10 and 18-20, applicant traverses the rejection because Yamaguchi and Kojima, taken alone or in combination, fail to disclose or suggest that belt cover extension sections are not attached to a main belt cover section, and that axially inner ends of the belt cover extension sections are disposed radially inward of one or more of the belt plies. As discussed previously, Yamaguchi discloses a tire that include a belt reinforcing layer 5 and belt layers 4. As shown in Fig. 1 of Yamaguchi, axially inner edges of the side sections of the belt reinforcing layer 5 are disposed radially outward of the belt layers 4. Further, although Yamaguchi discloses a belt addition reinforcement layer arranged in the both-sides region of the belt layer, the reference teaches that the belt addition reinforcement layer is disposed radially outward of the belt reinforcing layer 5. Accordingly, the belt addition reinforcement layer must also be radially outward of the underlying belt plies. Also,

Fig. 1 of Yamaguchi shows that the side sections of the belt reinforcing layer are physically attached to the center section.

Kojima fails to disclose a belt cover layer. Accordingly, Kojima also fails to disclose that axially inner portions of a belt cover layer are disposed radially inward of a belt layer, or that belt cover extension sections are attached to the main belt cover section. Thus, since the cited references, taken alone or in combination, fail to disclose or suggest that axially inner edges of belt cover extension sections are disposed radially inward of one or more belt plies and that belt cover extension sections are not attached to a main belt cover section, applicant respectfully requests withdrawal of the rejection of claim 9 and its associated claims 10 and 18-20.

Claims 3-5 and 11-13 stand rejected under Yamaguchi and Kojima, and further in view of one or more of Mochida, Yamamoto, and Motomura. Claims 3-5 ultimately depend from claim 1, while claims 11-13 ultimately depend from claim 9. Accordingly, each of these claims incorporates all of the features of its associated independent claim. Therefore, applicant traverses the rejections of claims 3-5 and 11-13 for the reasons recited above with respect to claims 1 and 9, and because Mochida, Yamamoto, and Motomura fail to remedy the deficiencies identified with respect to these rejections. Withdrawal of the rejection of claims 3-5 and 11-13 are respectfully requested.

Claims 1, 6, 8-10, 14, and 16-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Serra (WO 2002/26878) in view of Yamaguchi, Mama, and Kojima. Applicant traverses for the reasons given below.

Regarding claims 1, 6, 8, and 17, applicant traverses the rejection because the cited references, whether taken alone or in combination, fail to disclose or suggest a tire radial-direction length h between edges of the extension portions and edges of the belt ply is substantially equal to 0, as recited in claim 1.

Serra discloses a tire including two belt strips 106a and 106b and a reinforcing layer 106c placed on the radially outermost belt strip. As shown in Fig. 1 of Serra, belt strip 106a is relatively wider than the belt strip 106b, and belt strip 106b is disposed radially outward of the strip 106a. Serra fails to disclose a radial distance between the terminal edges of the reinforcing layer and the terminal edges of the belt strip 106a. However, as shown in Fig. 1 of Serra, the reinforcing layer 106c is disposed radially outward of the belt strip 106b. Thus, as shown in Fig 1 of Serra, there is a substantial radial distance between the edges of the reinforcing layer 106c and the edges of belt strip 106a.

Yamaguchi discloses that a tire includes a two-layer belt layer 4, and a belt reinforcing layer 5 (See paragraph [0009]). As shown in Fig. 1 of Yamaguchi, the belt reinforcing layer 5 is disposed radially outward of the belt layer 4. However, as with Serra, Yamaguchi does not disclose a distance between edges of the belt reinforcing layer and edges of the belt layer, taken in a tire radial direction.

As discussed above, Mama discloses that a tire includes one or more cover layers 6, where a portion of each of the cover layers is relatively close to belt layer 5a. However, as shown in Figs. 1-3, terminal edges of the cover layers 6 have a relatively large

radial separation relative to terminal edges of the underlying belt layer 5a. That is, the radial distance separating ends of the cover layer and the belt layer is not substantially 0.

Similarly, as discussed above, Kojima is cited only to disclose a coating rubber having a loss factor greater than 0 and less than 0.10. As acknowledged by the examiner, Kojima is silent regarding a belt cover layer. Accordingly, it necessarily follows that Kojima is also silent regarding a tire radial-direction distance between edges of extension portions of a belt cover layer and edges of a belt ply, as recited in claim 1 of the present invention.

In contrast, the present application teaches that a tire radial-direction length h measured between edges of an extension portion of a belt cover ply and edges of a belt ply is substantially equal to 0. That is, as shown in, for example, Fig. 4, there is substantially no radial-direction separation between the edge A of the belt cover ply 8 and the edge B of the first belt ply 5A. Eliminating this separation advantageously moderates heat generated in a shoulder portion of the tire by the repeated deformation received when the tire is rolling. Because the cited references, taken alone or in combination, do not disclose or suggest the radial distance h between edges of a belt cover ply and edges of the first belt ply is substantially equal to 0 as recited in claim 1, applicant respectfully requests withdrawal of the rejection of claims 1, 6, 8, and 17.

Regarding claims 9-10, 14, 16, and 18-20, applicant traverses the rejection because Serra, Yamaguchi, Mama, and Kojima, taken alone or in combination, fail to disclose or suggest that axially inner ends of belt cover extension sections are disposed radially inward of one or more belt plies, and that the belt cover extension sections are not

attached to the main belt cover extension sections. Serra teaches that a pneumatic tire includes belt strips 106a and 106b, and a reinforcing layer 106c arranged radially outward of the outermost belt strip. Thus, as shown in Fig. 1 of Serra, axially inner portions of the reinforcing layer 106c are disposed radially outward of a belt strip. Further, as shown in Fig. 1 of Serra, the reinforcing layer 106c is a single sheet, and there are no sections that are not attached.

As discussed above, Yamaguchi describes a tire having a belt reinforcing layer and a belt addition reinforcement layer each disposed radially outward of underlying belt layers. That is, Yamaguchi fails to disclose or suggest that axially inner ends of the belt reinforcing layer or belt addition reinforcement layer are disposed inward of one or more of the belt layers. Further, Fig. 1 of Yamaguchi shows that the side sections of the belt reinforcing layer are attached to the center section.

Mama, as stated previously, shows a belt cover layer 6 disposed along the edges of belt layers 5a and 5b in Figs. 1 and 2. However, the axially inner ends of belt cover layer 6 are disposed radially outward of the belt layers 5a and 5b. Moreover, there is no center belt cover layer in the tire shown in Figs. 1 and 2. Additionally, as shown in Fig. 3 of Mama, all portions of the cover layer 6 are attached.

As noted above, Kojima merely discloses that a rubber compound has a loss factor of less than 0.10. However the tire described in Kojima does not include a belt cover layer.

In contrast, a tire according to embodiments of the present invention includes a belt cover ply 8' having a main belt cover section 8'X and belt cover extension sections 8'Y. Figs. 5 and 6 of the present application show that the belt cover extension sections 8'Y are not attached to the main belt cover section 8'X. Also, as shown in Fig. 5, the axially inner ends of belt cover extension section 8'Y are disposed radially inward of a second belt ply 5b. Similarly, as shown in Fig. 6 of the present application, the belt cover extension section 8'Y is disposed radially inward of both the first belt ply 5a and the second belt ply 5b. Since the cited references, taken alone or in combination, fail to disclose or suggest these features, applicant respectfully requests withdrawal of the rejection of independent claim 9, and its associated dependent claims.

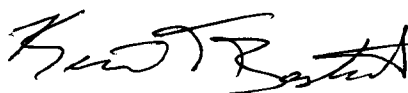
Claims 7 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Serra, Yamaguchi, Mama, Kojima, Kan (USPN 4,444,236), and Haneda (JP 07-257116). Claims 7 and 15 ultimately depend from independent claims 1 and 9, respectively. Accordingly, each of these claims incorporates all of the features of its respective independent claim, plus additional features. Therefore, applicant traverses the rejection of claims 7 and 15 for the reasons discussed above with respect to claims 1 and 9, and because Kan and Haneda fail to remedy the deficiencies identified above. Withdrawal is respectfully requested.

For all of the above reasons, applicant submits that this application is in condition for allowance, which is respectfully requested. The examiner should call applicant's attorney if an interview would expedite prosecution.

If a Petition under 37 C.F.R. §1.136(a) for an extension of time for response is required to make the attached response timely, it is hereby petitioned under 37 C.F.R. §1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely. The Commissioner is hereby authorized to charge fees which may be required to this application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,

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